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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Marco Pappagallo

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EXAMINER

KIM, JENNIFER M

ART UNIT

PAPER NUMBER

1628

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/624,942	Applicant(s) PAPPAGALLO, MARCO	
	Examiner JENNIFER M. KIM	Art Unit 1628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/28/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
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| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed July 28, 2009 have been received and entered into the application.

Response to Arguments

Applicant's arguments filed July 28, 2009 have been fully considered but they are not persuasive. Applicant argues that Geusens does not disclose, suggest or render predictable chronic spinal mechanical pain relief for at least three months following the most recent dose of a bisphosphonate, therefore, Geusens would not lead one of ordinary skill in the art to recognize any association between a bisphosphonate and chronic spinal mechanical pain relief and the duration of relief following the last dose of the bisphosphonate. This is not persuasive because Geusens clearly teach that the boy who had pamidronate treatment progressively recovered from back pain and that Fox et al. also teach the analgesic effect of bisphosphonates including pamidronate and zoledronate in the treatment of mechanical and inflammatory pain conditions with dosing administration of daily, once a week, once every month, once every three month, once every six month or once a year. Fox et al. teaches the effective dosage range of bisphosphonates of 0.01-10.0mg/kg which encompasses Applicants' range set forth in the claim 7. In this case, Fox teach that bisphosphonates such as pamidronate and zoledronic acid are effective for the treatment of pain with the same effective amounts

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with the same dosing frequency as instantly claimed, therefore, the duration of analgesic action of bisphosphonates would be obviously retained and last until the next dosing time, e.g. every three month or every once every six month or once a year taught by Fox. Therefore, it would have been obvious to one of ordinary skill in the art to employ bisphosphonates e.g. pamidronate or zoledronate for the treatment of any mechanical or an inflammatory pain regardless of the cause because the effectiveness of pamidronate or zoledronate in pain management is well known in the art in view of Fox et al and Geusens et al. Thus, the claims fail to patentably distinguish over the state of the art as represented by the cited references.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase “the **most recent** administration of the bisphosphonate” is vague and indefinite because it is not clear as to whether the phrase “most recent” refers to the first administration of drug at the time of injury (pain) or an administration of the drug at some time after some later administration than the first.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fox et al. (US 2004/0063670A1) in view of Geusens et al. (2001) of record.

Fox et al exemplify both pamidronate and zoledronate for the treatment of inflammatory hyperalgesia and mechanical hyperalgesia. (see abstract, examples, claims). Fox et al. teach that the doses of bisphosphonates including zoledronic acid and pamidronate for the treatment of pain can be administered once daily, once weekly, **once every month, once every three month, once every six months or once a year.** (abstract, claims [0075]-[0077]). Fox et al teach a method for the treatment of pain, in particular antinociceptive or anti-allodynic treatment of pain, in a patient in need of such treatment, e.g. a patient with osteoporosis or osteopenia, a tumour patient or a patient suffering from an inflammatory disease, which comprises administering an effective amount of a bisphosphonate, e.g. zoledronic acid or salt or hydrates thereof, to the patient. Fox et al teach that the effective dosages of zoledronate and pamidronate are from 0.002-20.0mg/kg, especially 0.01-10.0mg/kg. If desired, this dose may be also taken in several optionally equal or partial doses. Fox et al teach that the dose mentioned above, can be either administered as a single dose (which is preferred) or in

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several partial doses. Fox et al teach that the bisphosphonates can be administered parenterally, preferably intravenously. ([0083]).

Fox et al. do not expressly teach the duration of pain relief for at least three month following the most recent administration of pamidronate and zoledronic acid; the specific chronic spinal mechanical pain as being any back pain lasting more than twelve weeks which is not caused by cancer, or an osteoporotic compression fracture as defined in the specification page 7; and the treatment comprising providing prolonged pain relief.

Geusens et al. teach that an 18-year-old boy presented with extreme back pain as the result of multiple vertebral fractures was treated with intermittent intravenous bisphosphonate such as **pamidronate**. (abstract). Geusens et al. teach that intermittent IV infusions of pamidronate were given at dose of 30mg infusion, 300 mg in total over 9 month. (page 390 right-hand column first sentence originated from left-hand column, bottom). The boy progressively recovered from **back pain** and is now, at age 20, fully ambulant. (abstract).

It would have been obvious to one of ordinary skill in the art to employ pamidronate or zoledronate for the treatment of any mechanical or an inflammatory pain regardless of the cause because the effectiveness of pamidronate or zoledronate in pain management is well known in the art in view of Fox et al and Geusens et al. One would have been motivated to employ bisphosphonates including pamidronate and zoledronate for the treatment of pain at any cause in order to achieve their beneficial

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analgesic effect in the patient disclosed by both Fox et al. and Geusens et al. There is a reasonable expectation of successfully treating any pain particularly back pain regardless of a cause because bisphosphonates including pamidronate and zoledronate having analgesic effect are well disclosed by the cited references. With regard to the duration of pain relief for at least three months following the most recent administration and prolonged pain relief such is obvious because Fox teach that bisphosphonates such as pamidronate and zoledronic acid are effective for the treatment of pain with the same effective amounts as instantly claimed and can be administered every 3 month to a year. Therefore, such analgesic effect for the treatment of pain would be obviously retained in the patients who needs the dosages every three month or every once every six month or once a year with the administration of the same effective amounts taught by Fox et al.

For these reasons the claimed subject matter is deemed to fail to patentably distinguish over the state of the art as represented by the cited references. The claims are therefore properly rejected under 35 U.S.C. 103.

None of the claims are allowed.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER M. KIM whose telephone number is

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(571)272-0628. The examiner can normally be reached on Monday through Friday 6:30 am to 3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brandon Fetterolf can be reached on 571-272-2919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JENNIFER M KIM/
Primary Examiner, Art Unit 1628

Jmk
November 25, 2009